

Customer No.: 31561
Docket No.: 12530-US-PA
Application No.: 10/709,006

REMARKS

Present Status of the Application

The Office Action objected the drawings to under 37 CFR 1.83(a).

The Office Action rejected claims 1-2 and 7-8 under 35 U.S.C. 102(b) as being anticipated by Chau US 5,596,369.

The Office Action rejected claims 3, 4, 9 and 10 under 35 U.S.C. 103(a) as being unpatentable over Chau in view of Richter et al US 5,995,491.

The Office Action rejected claims 5 and 11 under 35 U.S.C. 103(a) as being unpatentable over Chau in view of Richter in further view of Kramer et al. US 6,658,027.

The Office Action rejected claims 6 and 12 under 35 U.S.C. 103(a) as being unpatentable over Chau in view of Lavalley et al. US 5,267,242.

Upon entry of the amendments in this response, claims 1-12 remain pending in the present application. These amendments are specifically described hereinafter. It is believed that the foregoing amendments add no new matter to the present application.

Response To Objections/Rejections

The drawings are objected to under 37 CFR 1.83 (a). The drawings must show every feature of the invention specified in the claims. Therefore, the elements of method claims 7-12 must be shown or the feature(s) canceled from the claim(s).

In response to the objection, Applicant has added a flowing chart of a method of decompressing images. The added flowing chart can be found in paragraph [0025]-[0035]. Therefore, there is no new matter added.

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The added flowing chart has shown every element of method claims 7-12. Therefore, Applicant submits claims 7-12 are now in proper form, and the objection should be withdrawn.

Response To Claim Rejections Under 35 U.S.C. Section 102

Claims 1-2 and 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Chau US 5,596,369 ("Chau", hereinafter).

Claim 1 recites: "[an] image decompressing circuit, comprising:

a variable length decoding unit, for receiving a compressed image picture and executing a debug analysis on the compressed image picture, wherein when a result of the debug analysis indicates that the compressed image picture is suitable for a subsequent decoding operation, executing a decoding process in pipeline on the compressed image picture; and

an image picture recovery unit, electrically coupled to the variable length decoding unit, for performing an inverse quantization, an inverse discrete cosine transformation and a motion compensation with a pipeline process after the compressed image picture has been decoded with the pipeline process, so as to recover the compressed image picture."

Chau discloses a basic decoding system 10 for decoding an MPEG video data bitstream. The bitstream is de-multiplexed, Variable Length Decoded (VLD) by a VLD decoder 12, inverse quantized by an inverse quantizer 14, and any DCT coded blocks are subjected to Inverse Discrete Cosine Transformation (IDCT) decoding by an IDCT decoder

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16 (See column 2, lines 56-61).

In Chau, after motion compensation and DCT coding are performed, the macroblock is quantized, and Variable Length Coded (VLC) to further compress the data bitstream. The macroblocks are then assembled into slices, pictures, groups of pictures and video sequences, multiplexed with associated audio data, and transmitted to a user for decoding and presentation (See column 2, lines 49-55). That is, a picture is comprised of several slices, and a slice is comprised of several macroblocks (the data bitstream).

In Chau, slices are important in the handling of errors. If the bitstream contains an error, the decoder can skip to the start of the next slice (See column 2, lines 4-6). However, Chau does not teach the decoder can execute a debug analysis on the bitstream.

Furthermore, in Chau, Applicant only can find the contents relating to code the error, such as "a comparison macroblock is then generated by displacing the reference macroblock by the amount indicated by the motion compensation vector, which is then subtracted from the macroblock of the P or B picture that is being coded to produce an error signal which corresponds to the difference therebetween. The error signal is then coded using DCT (similar to an intracoded picture) and transmitted with the motion vector. If, however, the error signal is small or zero, no error component is transmitted. (See column 2, lines 36-45). Applicant cannot find any content relating to process the error in the decoding. Therefore, Chau only teach the error can be coded, but Chau fails to teach or suggest the variable length decoding executes a debug analysis on the bitstream.

Furthermore, in Chau, the coding and decoding all relates to the bitstream, but not the picture.

However, in claim 1, the variable length decoding unit is for receiving a compressed

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image picture and executing a debug analysis on the compressed image picture. That is, the variable length decoding unit executes a debug analysis on the picture.

Therefore, Chau fails to teach or suggest "a variable length decoding unit, for receiving a compressed image picture and executing a debug analysis on the compressed image picture" as recited in claim 1.

For at least the foregoing reasons, applicant respectfully submits that Chau do not teach each and every element in claim 1. Independent claim 1 patentably defines over the prior art reference, and should be allowed.

Claim 2 depends on claim 1, therefore, claim 2 should be allowed.

Claim 7 is similar to claim 1, for the above reasons, claim 7 is patentable over Chau.

Claim 8 depends on claim 7, therefore, claim 8 should be allowed.

Response To Claim Rejections Under 35 U.S.C. Section 103

Claims 3, 4, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chau in view of Richter et al US 5,995,491 ("Richter", hereinafter).

As admitted in the Office Action, the Chau does not disclose the feature that "when the variable length decoding unit performs the debug analysis on the compressed image picture and finds an error data, the compressed image picture is reloaded, so as to perform the debug analysis on the compressed image picture again" as addressed in claim 3. As admitted in the Office Action, the Chau does not disclose the feature that "when the variable length decoding unit performs the debug analysis on the compressed image picture and finds more than a predetermined number of the error data and there is no sufficient time to reload the compressed image picture, the compressed image picture is aborted" as addressed in

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claim 4.

Richter Can Not Remedy The Deficiency Of The Chau

Applicant respectfully submits that the Richter can not remedy the deficiency of the Chau and respectfully traverses the rejection for at least the reasons set forth below.

Richter relates to "Method and apparatus for multiple media digital communication system", which multiple media data sources are time multiplexed into a packetized data stream, each packet having an assigned priority and the packetized data stream transmitted in substantially the order of assigned priority.

In Col.8, Lines 24~54, the Richter discloses that

"The system of the present invention tolerates transmission errors inherent in a traditional packet switched system by discarding or retransmitting corrupted audio or video. For text files, the normal error detection and retransmission requests are used. Sound and video are distinguished from text or file data in that it is possible to tolerate some loss of sound and video and still maintain an acceptable quality. In the event of a detected error in the received audio or video packet, the receiver determines whether there is sufficient time to flag the error and request a retransmission, based on the predicted average delay time of the system. If there is not sufficient time, the corrupted packet is ignored. In such manner, network capacity is not wasted on retransmissions which will arrive too late and have to be discarded anyway. However, the lowest priority packets of text/graphics or computer file data which are not time dependent, are flagged for errors and retransmitted."

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Richter teaches that time multiplexed packetized data stream assigned with priority is transmitted for communication between conference callers. Continuous real time audio playback is maintained at the receiver by delaying the playback of received audio in a first in/first out (FIFO) buffer providing a delay at least equal to the predicted average packet delay for the communication system (*Abstract*). From the disclosure upon which the Office Action relied, it states that it is possible to tolerate some loss of sound and video and still maintain an acceptable quality. In the event of a detected error in the received audio or video packet, the receiver determines whether there is sufficient time to flag the error and request a retransmission, based on the predicted average delay time of the system.

In view of the Chau, it discloses a basic decoding system for decoding an MPEG video data bitstream. In Chau, slices are important in the handling of errors. If the bitstream contains an error, the decoder can skip to the start of the next slice (See column 2, lines 4-6). However, Chau does not teach the decoder can execute a debug analysis on the bitstream. What can be found in Chau regarding the error detected is "a comparison macroblock is then generated by displacing the reference macroblock by the amount indicated by the motion compensation vector, which is then subtracted from the macroblock of the P or B picture that is being coded to produce an error signal which corresponds to the difference therebetween. The error signal is then coded using DCT (similar to an intracoded picture) and transmitted with the motion vector. If, however, the error signal is small or zero, no error component is transmitted." (See column 2, lines 36-45).

The teaching or suggestion from the Richter can not be combined with the basic decoding system for decoding an MPEG video data bitstream of the Chau because that the decoding an MPEG video data bitstream can not tolerate some loss of sound and video and

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still maintain an acceptable quality, and determine whether there is sufficient time to flag the error and request a retransmission based on the predicted average delay time, as taught in the Richter.

Even Combined, Chau in view of Richter Can Not render the Invention Obvious

Even combined, the Chau in view of Richter still could not render the invention obvious. The variable length decoding unit in the image decompressing circuit, as claimed, has the function for receiving a compressed image picture and executing a debug analysis on the compressed image picture, wherein when a result of the debug analysis indicates that the compressed image picture is suitable for a subsequent decoding operation, executing a decoding process in pipeline on the compressed image picture. Before the pipeline decoding processing is performed on the compressed image picture, the debug analysis is performed on the compressed image picture. However, as taught in the Chau or in the Richter, the decoding process is performed and the error, if occurs, is found during the decoding processing. The decoding processing is performed in pipeline, which has the same problem as explained in the Background of the present invention, which states as followed:

When the VLD finds out that an image picture is severely damaged, it may not have sufficient time to generate next new picture and the system is enforced to replay the previous picture once more for compensating and preventing the damaged picture from displaying. In addition, when the VLD just finds out that there is an error, it is possible that a portion of the damage image picture has been displayed for a while, thus cause an unrecoverable error.

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As defined in MPEP 2141.02, it states that In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983).

The invention, as claimed in claims 3 and 4, as a whole would have not been obvious over Chau in view of Richter.

Therefore, for at least the foregoing reasons, claims 3 and 4 should be patentable over Chau in view of Richter.

In view of the same reasons, claims 9 and 10 are also patentable over Chau in view of Richter.

Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chau in view of Richter in further view of Kramer et al. US 6,658,027.

As the reasons set forth above, the Richter further in view of the Kramer still can not remedy the deficiency of the Chau. Claims 5 and 11 should be patentable over Chau and Richter in further view of Kramer, and thus should also be allowed.

Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chau in view of Lavalley et al. US 5,267,242.

As set forth above, the Chau fails to teach or suggest "a variable length decoding unit, for receiving a compressed image picture and executing a debug analysis on the

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compressed image picture" as claimed.

Even combined with disclosure of the Lavalley that "selectively turn on or turn off the debug analysis for the data", the Chau still could not render the invention obvious because the Chau fails to teach or suggest "executing a debug analysis on the compressed image picture" as claimed.

Thus, claims 6 and 12 should be patentable over Chau in further view of Lavalley, and thus should also be allowed.

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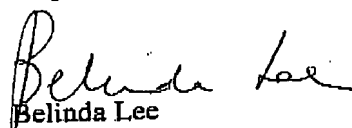
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CONCLUSION

For at least the foregoing reasons, it is believed that the pending claims 1-12 are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

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Respectfully submitted,


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